

### **REMARKS/ARGUMENTS**

Claim 1 has been amended by incorporating the subject matter of previously examined and searched dependent Claims 3, 5-7 and 10. This additional subject matter has been examined and considered, and presumably searched individually and in the combinations that would have been reasonably expected in view of Applicants' disclosure by an Examiner that carefully reviewed the specification and considered the reasonable combinations of subject matter within the broad claims according to MPEP 904.01, 904.02, 904.02(a), and 904.03. Entry of this amendment is also requested to reduce or simplify issues for an appeal, and the amendment represents a good faith attempt by Applicant to expedite prosecution to allowance. No additional searching should be required.

### **Rejection Under 35 U.S.C. §102(b)**

Claims 1-4 and 6-11 have been finally rejected as being anticipated by Leenders et al. Applicant respectfully traverses this rejection.

In support of this rejection, the Office Action argues that the subject matter of Claim 1 is described in Cols. 2 (lines 26, 29, and 30-31), 5 (lines 1-2), and 6 (lines 36-38). In addition, the Office Action argues that the subject matter of Claim 2 is shown in Col. 5 (lines 1-2); Claim 3 in Cols. 5 (lines 1-2) and 6 (lines 36-38); Claim 4 in Col. 2 (line 26); Claim 6 in Col. 7 (lines 66-67); Claim 7 in Col. 8 (lines 11-12); Claim 8 in Example 1, Col. 9 (lines 30-39); Claim 9 in Cols. 9 (lines 37-43) and 8 (lines 51-57); Claim 10 in Col. 5 (lines 1-17); and Claim 11 in Cols. 5 (lines 59-63) and 6 (lines 50-52).

The Office Actions have consistently maintained an incorrect interpretation of portions of Leenders et al.

Applicant's Claim 1 calls for the presence of a crosslinked polymer that contains certain heat decomposable groups. As pointed out in previous correspondence, these heat decomposable groups are present in the crosslinked polymer, i.e. they are not reacted during the crosslinking. This feature need not be explicitly stated in the claim language since it is properly described in Applicant's specification (see page 8 line 15 through page 9, line 4). Crosslinking occurs when the crosslinking agent reacts with functional groups reactive with the crosslinking agent, not the heat decomposable groups. This crosslinking feature,

taken from cancelled Claim 3, is now explicit in Claim 1. A fair reading of the specification by a skilled worker would provide the understanding that two different groups are needed in the polymer, one for crosslinking and others being the heat-decomposable groups that remain in the crosslinked polymer.

With this in mind, nothing in Leenders describes the claimed combination of components in Claim 1. The Office Action alleges that Leenders describes a crosslinked polymer with heat-decomposable groups, and particularly in reference to Claim 2, it points to Col. 5 (lines 1-2). The azo compounds mentioned in Col. 5 are clearly not groups contained within the polymer of Leenders et al. They are common “initiators” that provide free radicals for polymerization reactions that can be used for curing (see Col. 3, lines 19-25). Such compounds have been used for decades in polymerization of ethylenically unsaturated compounds (monomers, oligomers, polymers, etc.). These azo compounds, are not, however, part of the crosslinked polymer. The mechanism for free radical polymerization (or curing) as taught in Leenders et al. is well known in polymer chemistry as evidenced by one textbook (Odian, Principles of Polymerization, 1970 Edition, page 10, copy enclosed) used even by the undersigned representative many years ago when he took polymer chemical engineering courses. The free radical provides a reactive center for addition of recurring units (or crosslinking of existing recurring units) and then the polymer chain (main or side chain) is “terminated” with destruction of the reactive center.

The free radical does not remain as part of the polymerized or crosslinked polymer. Thus, nothing in Leenders et al. would describe a crosslinked polymer containing an azo, diazo, dioxy, disulfide, hydrazide, nitro, onium salt, sulfonic ester, disulfonyl, or thiosulfonic group in the main chain. For at least this reason, the anticipation rejection of Claim 1 is in error and should be withdrawn.

In addition, Claim 1 calls for the presence of a photo-to-heat converting material either in the oleophilic layer or in a hydrophilic layer between the substrate and the oleophilic layer. Such photo-to-heat converting materials are not described in Leenders et al. The Office Action points to the teaching of filler particles in Col. 8 of Leenders et al. (silica, titanium dioxide) as photo-to-heat converting materials. They are not such materials. There is no teaching in the art to suggest that such inorganic particles will convert imaging radiation to heat so

that the imaging layer can be ablated (blown off the support). That would defeat the purpose of such filler particles that provide strength and other mechanical properties. A careful reading of Leenders et al. indicates that it is the metal or metal derivative layer in the element that facilitates ablation from imaging. This is clearly not the printing plate precursor of the present invention where ablation is achieved with the presence of a photo-to-heat converting material such as IR-absorbing pigments and dyes as described on pages 11-13 of the present application. This is another reason that Claim 1 is not anticipated by Leenders et al.

The remaining claims are either dependent upon or reference Claim 1 and derive novelty for that reason.

Thus, Applicant submits that the Section 102(b) rejection should be withdrawn.

**Rejection Under 35 U.S.C. §103(a)**

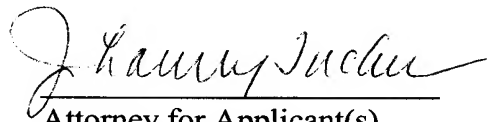
Claim 5 has been rejected as unpatentable in view of Leenders et al and Maemoto et al. This rejection is also traversed.

As pointed out above, titanium dioxide particles are not photo-to-heat converting materials. They are fillers or particles that provide physical properties. This is taught in both Leenders et al. (Col. 8, lines 1-15) and Maemoto et al. [0247]-[0248]. Metallic particles may provide photo-to-heat conversion but the inorganic fillers are not useful in this manner. Thus, it is irrelevant that such particles provide mechanical properties because such properties are not relevant to the present invention where the imaged areas are ablated or removed due to the presence of the photo-to-heat converting materials in either the hydrophilic layer or the oleophilic layer.

While the subject matter of Claim 5 has been incorporated into Claim 1, the same arguments apply to the amended Claim 1, and this unpatentability rejection should be withdrawn.

In view of the foregoing amendments and remarks,  
reconsideration of this patent application is respectfully requested. A prompt and  
favorable action by the examiner is earnestly solicited.

Respectfully submitted,

A handwritten signature in cursive script, reading "J. Lanny Tucker", written over a horizontal line.

Attorney for Applicant(s)

Registration No. 27,678

J. Lanny Tucker/s-p  
Rochester, NY 14650  
Telephone: (585) 722-9332  
Facsimile: (585) 477-1148

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the  
Examiner is requested to communicate with Eastman Kodak Company Patent Operations at  
(585) 477-4656.

# PRINCIPLES OF POLYMERIZATION

**GEORGE ODIAN**

Associate Professor of Chemistry  
Richmond College  
The City University of New York  
Staten Island, New York

**McGRAW-HILL BOOK COMPANY**

New York    St. Louis  
San Francisco    London    Sydney    Toronto    Mexico    Panama

PRINCIPLES OF POLYMERIZATION

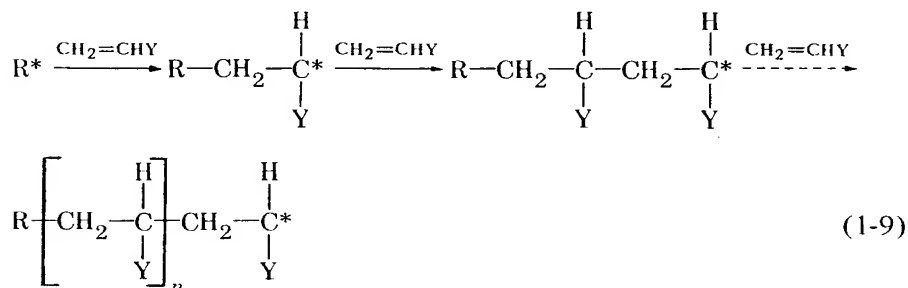
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where full-sized polymer molecules are produced almost immediately after the start of the reaction.

Chain polymerizations require a catalyst from which is produced an initiator species  $R^*$  with a reactive center. The reactive center may be either a free radical, cation, or anion. Polymerization occurs by the propagation of the reactive species by the successive additions of large numbers of monomer molecules in a chain reaction happening, in a matter of a second or so at most, and usually in much shorter times. By far, the most common example of chain polymerization is that of vinyl monomers. The process can be depicted as



The growth of the polymer chain ceases when the reactive center is destroyed by one of a number of possible termination reactions.

One should not infer from the above discussion that chain polymerizations are faster than step polymerizations. The net rate at which monomer molecules disappear (i.e., the rate of polymerization) in step polymerization can be as great or greater than that in chain polymerization. The difference between the two processes lies simply in the time required for the growth of each polymer molecule. Thus, if we start out a chain polymerization and a step polymerization side-by-side, we may observe a variety of situations with regard to their relative rates of polymerization. However, the molecular weights of the polymers produced at any time after the start of the reactions will always be very characteristically different for the two polymerizations. If the two polymerizations are stopped at 0.1% conversion, 1% conversion, 10% conversion, 40% conversion, 90% conversion, and so on, one will always observe the same behavior. The chain polymerization will show the presence of high molecular weight polymer molecules at all percents of conversion. There are no intermediate sized molecules in the reaction mixture—only